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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FARJAMI & FARJAMI LLP 26522 LA ALAMEDA AVENUE, SUITE 360 MISSION VIEJO, CA 92691			EXAMINER MILLS, DONALD L	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/418,397

Applicant(s)

WHITFIELD ET AL.

Examiner

Donald L. Mills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 8, and 22-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnaud et al. (US 6,650,662 B1), herein after referred to as Arnaud, in view of Yaguchi (US 5,818,929).

Regarding claims 1, 22, 30, 38, 47, 56, 65, 70, and 76, Arnaud discloses a method and apparatus for transmitting DTMF signals, which comprises:

*Examining audio signals for potential DTMF signals* (Referring to Figure 2, receiving a voice traffic signal and detecting a DTMF signal. See column 5, lines 22-25.)

*Preparing the audio signals for transmission as digital packets* (Referring to Figure 2, traffic is assembled in packets (205) and transmitted. See column 5, lines 34-35.)

*While no potential DTMF signals have been detected, promptly transmitting a digital packet after sufficient time has elapsed for a potential DTMF signal to be detected in the digital packet* (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay. See column 5, lines 61-62.)

*If a potential DTMF signal is detected, storing the digital packets* (Referring to Figures 2 and 12, DTMF detector (203) detects and validates DTMF signals, inherently requiring the

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storing of packets in order to process the packets. See column 5, lines 26-28,) *and if the potential DTMF signal does not result in a DTMF detection, promptly transmitting the digital packets* (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay. See column 5, lines 61-62,) *and if the potential DTMF signal does result in a DTMF detection, discarding the stored digital packets and transmitting a control packet containing information relating to characteristics of a DTMF signal that was detected* (Referring to Figures 2 and 9b, after the DTMF Detector (203) has determined that a candidate DTMF signal is a true DTMF signal, the DTMF signal is coded for transmission, comprising the DTMF signal characteristics. See column 5, lines 42-46 and 65-67.)

Arnaud does not disclose *stalling transmission of stored digital packets until DTMF detection can be performed*.

Yaguchi discloses a method and apparatus for DTMF detection in which a filter utilizing a short energy-propagation delay time to perform DTMF detection in a short time and suppress erroneous detection (See column 2, lines 33-38.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the delayed DTMF detection method of Yaguchi in the digital DTMF transmission system of Arnaud. One of ordinary skill in the art at the time of the invention would have been motivated to do so in order to suppress erroneous DTMF detection as taught by Arnaud (See column 3, lines 58-64.) An added benefit of doing so improves the quality of service by reducing unwanted artifacts.

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Regarding claim 5, the primary reference further teaches *wherein the audio signals include digitized representations of voice signals* (Referring to Figure 2, traffic is assembled in packets (205). See column 5, lines 34-35.)

Regarding claim 8, the primary reference further teaches *examining the audio signals for potential DTMF signals using digital signal processing* (Referring to Figure 2, receiving a voice traffic signal and detecting a DTMF signal, which inherently comprises digital signal processing in order to determine if a digital packet is a DTMF signal. See column 5, lines 22-25.)

Regarding claim 23, 31, 40, 49, 60, 61, 69, 72, 75, 78, and 81, the primary reference further teaches *wherein the first frequency is/ confirms existence of a high frequency and the second frequency is a low frequency* (Referring to Figure 3, the detector checks for the presence of a frequency from a high group and a low group. See column 6, lines 39-41.)

Regarding claim 24, 32, 41, 50, 58, 67, 73, and 79, the primary reference further teaches *wherein the detecting uses a wideband energy detector* (Referring to Figure 3, the detector must detect DTMF signals in a predefined range of energy levels. See column 6, lines 48-49.)

Regarding claim 25, 33, 42, 51, 59, 68, 74, and 80, the primary reference further teaches *wherein the detecting compares the energy with a high threshold and a low threshold* (Referring to Figure 3, the detector must detect DTMF signals in a predefined range of energy levels and a non-operation level, below which a DTMF signal must not be detected. See column 6, lines 48-51.)

Regarding claim 26, 34, 43, and 52, the primary reference further teaches *wherein the conforming confirms an existence of the first frequency and the second frequency in the audio*

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*signal* (Referring to Figure 12, DTMF validating 1206 inherently confirms the existence of a first and second frequency when verifying the presence of a DTMF signal.)

Regarding claim 27, 35, 44, 53, and 62, the primary reference further teaches *wherein the confirming confirms a frequency tolerance of each tone* (Referring to Figure 3, DTMF detector detects frequencies with a tolerance of 1.8% of their nominal value. See column 6, lines 42-43.)

Regarding claim 28, 36, 45, 54, and 63, the primary reference further teaches *wherein the confirming confirms a frequency deviation of each tone* (Referring to Figure 3, the DTMF detector does not respond to signals whose duration is less than a specified value. See column 6, lines 64-67.)

Regarding claim 29, 37, 46, 55, and 64, the primary reference further teaches *wherein the confirming confirms a twist in the audio signal* (Referring to Figure 3, the DTMF detector detects when the two frequencies are received at different power levels, called a twist. See column 6, lines 52-57.)

Regarding claims 39, 48, 57, 66, 71, and 77, the primary reference further teaches *wherein the element is an energy of the first frequency* (Referring to Figure 3, the detector must detect DTMF signals in a predefined range of energy levels and a non-operation level, below which a DTMF signal must not be detected. See column 6, lines 48-51.)

3. Claims 2-4, 6, 7, 9, 10, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnaud et al. (US 6,650,662 B1), herein after referred to as Arnaud, in view of Yaguchi (US 5,818,929), and Arnaud in view of Kozdon et al. (US 6,385,192 B1), hereinafter referred to as Kozdon.

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Regarding claim 2 as explained above in the rejection statement of claim 1, Arnaud and Yaguchi teach all of the claim limitations of claim 1 (parent claim).

Arnaud does not disclose *preparing the audio signals for transmission as RTP packets*.

Kozdon teaches placing the compressed telephone signals and codes representing the DTMF onto virtual channels of a real time protocol (RTP) data stream (See column 5, lines 11-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Arnaud in the system of Kozdon. One of ordinary skill in the art would have been motivated to do so in order to transmit real time protocol traffic and DTMF signals with only features essential for reconstituting the DTMF signal as taught by Arnaud (See column 4, lines 20-21.)

Regarding claim 3 as explained above in the rejection statement of claim 1, Arnaud and Yaguchi teach all of the claim limitations of claim 1 (parent claim).

Arnaud does not disclose *transmitting the digital packets over an IP network*.

Kozdon teaches transmitting voice signals, digitally packetized, on a computer network 112 such as the Internet (See column 5, lines 5-9.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Arnaud in the system of Kozdon. One of ordinary skill in the art would have been motivated to so in order to transmit DTMF signals with only features essential for reconstituting the DTMF signal in an IP network as taught by Arnaud (See column 4, lines 20-21.).

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Regarding claim 4 as explained above in the rejection statement of claim 1, Arnaud and Yaguchi teach all of the claim limitations of claim 1 (parent claim).

Arnaud does not disclose *transmitting the RTP packets over an IP network*.

Kozdon teaches placing the compressed telephone signals and codes representing the DTMF onto virtual channels of a real time protocol (RTP) data stream (See column 5, lines 11-15.) Kozdon further teaches transmitting voice signals, digitally packetized, on a computer network **112** such as the Internet (See column 5, lines 9-10.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Arnaud in the system of Kozdon. One of ordinary skill in the art would have been motivated to do so in order to transmit real time protocol traffic and DTMF signals with only features essential for reconstituting the DTMF signal in an IP network as taught by Arnaud (See column 4, lines 20-21.)

Regarding claims 6 and 7, the primary reference further discloses *wherein the audio signals include digitized representations of voice signals* (Referring to Figure 2, traffic is assembled in packets **(205)**. See column 5, lines 34-35.)

Regarding claims 9 and 10, the primary reference further discloses *examining the audio signals for potential DTMF signals using digital signal processing* (Referring to Figure 2, receiving a voice traffic signal and detecting a DTMF signal, which inherently comprises digital signal processing in order to determine if a digital packet is a DTMF signal. See column 5, lines 22-25.)

Regarding claims 17, Arnaud discloses a method and apparatus for transmitting DTMF signals, which comprises:



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*Processing digital representations of audio signals to detect potential DTMF signals*

(Referring to Figure 2, receiving a voice traffic signal and detecting a DTMF signal. See column 5, lines 22-25.)

*In a first mode of operation while no potential DTMF signal has been detected:*

*(a) preparing the digital representations of audio signals for transmission as packets*

*(b) transmitting a packet over a network after a predetermined period of time sufficient to allow the step of processing digital representations of audio signals to detect potential DTMF signals to be completed for the packet (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay, which inherently comprises preparing the signal for transmission. See column 5, lines 61-62.)*

*In a second mode of operation when a potential DTMF signal has been detected, preparing the digital representations of audio signals for potential transmission as packets, storing the packets (Referring to Figures 2 and 12, DTMF detector (203) detects and validates DTMF signals, inherently requiring the storing of packets in order to process the packets. See column 5, lines 26-28;)*

*Arnaud does not disclose stalling transmission of stored digital packets until DTMF detection can be performed.*

Yaguchi discloses a method and apparatus for DTMF detection in which a filter utilizing a short energy-propagation delay time to perform DTMF detection in a short time and suppress erroneous detection (See column 2, lines 33-38.)

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It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the delayed DTMF detection method of Yaguchi in the digital DTMF transmission system of Arnaud. One of ordinary skill in the art at the time of the invention would have been motivated to do so in order to suppress erroneous DTMF detection. An added benefit of doing so improves the quality of service by reducing unwanted artifacts.

Arnaud further discloses:

*(a) if the potential DTMF signal is determined to not be a valid DTMF signal, transmitting the stored packets over a network (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay. See column 5, lines 61-62;)*

*(b) if the potential DTMF signal is determined to be a valid DTMF signal; discarding the stored packets, preparing a control packet containing information indicative of characteristics of a DTMF signal, and transmitting the control packet over a network (Referring to Figures 2 and 9b, after the DTMF Detector (203) has determined that a candidate DTMF signal is a true DTMF signal, the DTMF signal is coded for transmission, comprising the DTMF signal characteristics. See column 5, lines 42-46 and 65-67.)*

Arnaud does not disclose *RTP packets* and *IP network*.

Kozdon teaches placing the compressed telephone signals and codes representing the DTMF onto virtual channels of a real time protocol (RTP) data stream (See column 5, lines 11-15.) Kozdon further teaches transmitting voice signals, digitally packetized, on a computer network 112 such as the Internet (See column 5, lines 9-10.)

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Arnaud in the system of Kozdon. One of ordinary skill in the art would have been motivated to do so in order to transmit real time protocol traffic and DTMF signals with only features essential for reconstituting the DTMF signal in an IP network as taught by Arnaud (See column 4, lines 20-21.)

Regarding claim 18 as explained above in the claim rejection of claim 17, the references teach all of the claim limitations of claim 17 (parent claim). Arnaud further discloses a method and apparatus for transmitting DTMF signals, which comprises:

*Receiving the packets at a remote location coupled to a network* (Referring to Figure 2, a Receiver Interface (207) receives incoming packets at the other side of the network. See column 5, lines 53-54.)

*Decoding the packets to recover digital representations of audio signals* (Referring to Figure 2, voice decompression system (208) decompresses voice packets. See column 5, lines 56-57.)

*Converting digital representations of audio signals to analog signals* (Referring to Figure 2, voice signal is sent to the end user. See column 5, lines 58-60.)

*Receiving a control packet at a remote location couple to the network* (Referring to Figure 2, coded DTMF packets are received at the Receiver Interface (207). See column 5, lines 53-56.)

*Generating DTMF signals having characteristics determined by information contained in the control packets* (Referring to Figure 2, the corresponding DTMF packets are sent to a DTMF generator (209) then sent to the end user. See column 5, lines 54-60.)

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Arnaud does not disclose *RTP packets* or *IP network*.

Kozdon teaches placing the compressed telephone signals and codes representing the DTMF onto virtual channels of a real time protocol (RTP) data stream (See column 5, lines 11-15.) Kozdon further teaches transmitting voice signals, digitally packetized, on a computer network **112** such as the Internet (See column 5, lines 9-10.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Arnaud in the system of Kozdon. One of ordinary skill in the art would have been motivated to do so in order to transmit real time protocol traffic and DTMF signals with only features essential for reconstituting the DTMF signal in an IP network as taught by Arnaud (See column 4, lines 20-21.)

Regarding claim 19, Arnaud discloses a method and apparatus for transmitting DTMF signals, which comprises:

*A telephony interface* (Referring to Figure 1, a telephone set **(100)**. See column 5, lines 4-5.)

*A digital processor coupled to the telephony interface for processing digital representations of audio signals to detect potential DTMF signals* (Referring to Figure 2, receiving a voice traffic signal and detecting a DTMF signal, inherently utilizing a processor to process packets. See column 5, lines 22-25.)

*A microcontroller coupled to the digital processor, the microcontroller being operative to prepare the digital representations of audio signals for transmission as packets*

*Memory coupled to the microcontroller for temporarily storing packets* (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay,

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which inherently comprises a processor for preparing the signal for transmission and memory for storing the packets. See column 5, lines 61-62.)

*A control register coupled to the digital processor and readable by the microcontroller, the control register including a flag bit indicative of the status of detection of a potential DTMF signal, the control register including one or more flag bits indicative of the detection of a valid DTMF signal* (Referring to Figure 2, DTMF Detector (203) determines if the candidate DTMF signal is a true DTMF signal and not voice traffic, which inherently utilizes a memory to indicate the status of the received signal which is read by a processor. See column 5, lines 43-45.)

*A network interface coupled to the microcontroller for coupling packets to a network* (Referring to Figure 1, a telephone set (100) is linked via a subscriber line to a network, inherently comprising a network interface to transmit packets between sources. See column 5, lines 3-5.)

*Wherein when the flag bit indicative of the status of detection of a potential DTMF signal is not set, the packets are promptly coupled to the network interface for transmission over the network* (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay, which inherently comprises preparing the signal for transmission. See column 5, lines 61-62,) *and when the flag bit indicative of the status of detection of a potential DTMF signal is set, the packets are stored in the memory* (Referring to Figures 2, 9b, and 12, after the DTMF Detector (203) has determined that a candidate DTMF signal is a true DTMF signal, inherently requiring the storing of packets in order to process the packets, the DTMF signal is coded for transmission comprising the DTMF signal characteristics. See column 5, lines 42-46 and 65-67.)

Arnaud does not disclose *stalling transmission of stored digital packets until DTMF detection can be performed.*

Yaguchi discloses a method and apparatus for DTMF detection in which a filter utilizing a short energy-propagation delay time to perform DTMF detection in a short time and suppress erroneous detection (See column 2, lines 33-38.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the delayed DTMF detection method of Yaguchi in the digital DTMF transmission system of Arnaud. One of ordinary skill in the art at the time of the invention would have been motivated to do so in order to suppress erroneous DTMF detection. An added benefit of doing so improves the quality of service by reducing unwanted artifacts.

Arnaud further discloses *if the flag bit indicative of the status of detection of a potential DTMF signal is reset and a flag bit indicative of the detection of a valid DTMF signal is not set, the stored packets are promptly coupled to the network interface for transmission over the network* (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay, which inherently comprises preparing the signal for transmission. See column 5, lines 61-62,) *and if a flag bit indicative of the detection of a valid DTMF signal is set, the stored packets are discarded and a control packet is prepared by the micro controller where the control packet contains information indicative of characteristics of a DTMF signal and the control packet is coupled to the network interface for transmission over the network* (Referring to Figures 2 and 9b, after the DTMF Detector (203) has determined that a candidate DTMF signal is a true DTMF signal, the DTMF signal is coded for transmission, comprising the DTMF signal characteristics. See column 5, lines 42-46 and 65-67.)

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Arnaud does not disclose *RTP packets* and *an IP network*.

Kozdon teaches placing the compressed telephone signals and codes representing the DTMF onto virtual channels of a real time protocol (RTP) data stream (See column 5, lines 11-15.) Kozdon further teaches transmitting voice signals, digitally packetized, on a computer network **112** such as the Internet (See column 5, lines 9-10.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Arnaud in the system of Kozdon. One of ordinary skill in the art would have been motivated to do so in order to transmit real time protocol traffic and DTMF signals with only features essential for reconstituting the DTMF signal in an IP network as taught by Arnaud (See column 4, lines 20-21.)

Regarding claims 20 and 21 as explained above in the rejection statement of claim 19, the references teach all of the claim limitations of claim 19 (parent claim). Arnaud further discloses a method and apparatus for transmitting DTMF signals, which comprises:

*A second network interface coupled to the network at a remote location* (Referring to Figure 2, a Receiver Interface (**207**) receives incoming packets at the other side of the network, inherently comprising a network interface in order to receive packets. See column 5, lines 53-54.)

*A second microcontroller coupled to the second network interface* (Referring to Figure 2, voice decompression system (**208**) decompresses voice packets. See column 5, lines 56-57.)

*A digital-to-analog converter coupled to the second microcontroller for converting digital representations of audio signals to analog signals* (Referring to Figure 2, voice signal is

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sent to the end user, inherently comprising a D/A converter controlled by a processor. See column 5, lines 58-60.)

*A DTMF signal generator coupled to the second microcontroller for generating (Claim 20)/A second digital processor operative to generate DTMF signals having characteristics determined by information contained in the control packets (Claim 21)* (Referring to Figure 2, the corresponding DTMF packets are sent to a DTMF generator (209) then sent to the end user, which inherently comprises a processor to process packets. See column 5, lines 54-60.)

Arnaud does not disclose *RTP packets or IP network*.

Kozdon teaches placing the compressed telephone signals and codes representing the DTMF onto virtual channels of a real time protocol (RTP) data stream (See column 5, lines 11-15.) Kozdon further teaches transmitting voice signals, digitally packetized, on a computer network 112 such as the Internet (See column 5, lines 9-10.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of Arnaud in the system of Kozdon. One of ordinary skill in the art would have been motivated to do so in order to transmit real time protocol traffic and DTMF signals with only features essential for reconstituting the DTMF signal in an IP network as taught by Arnaud (See column 4, lines 20-21.)

4. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnaud et al. (US 6,650,662 B1), herein after referred to as Arnaud, in view of Yaguchi (US 5,818,929), and Arnaud in view of Kozdon et al. (US 6,385,192 B1), hereinafter referred to as Kozdon, further in view of Schulzrinne (ietf-avt-dtmf-01.txt).



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Regarding claim 11 as explained above in the rejection statement of claim 1, the references teach all of the claim limitations of claim 1 (parent claim).

Arnaud does not disclose *when the potential DTMF signal does result in a DTMF detection, preparing a control packet comprising 32 bits of information having a format of: RRRNNNNRRRVVVVVDDDDDDDDDDDDDDDDDDDDDD where "R" designates reserved bits; "N" designates bits of data representative of a DTMF digit; "V" designates bits of data representing the power level of the DTMF signal, expressed in dBm0 after dropping the sign; and "D" designates bits of data indicating a duration for a DTMF signal, in timestamp units.*

Schulzrinne teaches a payload format 32-bits long which comprises five reserve bits, five bits for DTMF digit encoding, six bits for volume or power level, and sixteen bits for duration in timestamp units (See pages 2-3.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement RTP payload for DTMF digits of Schulzrinne in the system of Kozdon utilizing the method of Arnaud. One of ordinary skill in the art would have been motivated to do so in order to support DTMF digits in RTP packets as taught by Schulzrinne (See page 1, paragraph 4.)

Regarding claim 12 as explained above in the rejection statement of claim 1, the references teach all of the claim limitations of claim 1 (parent claim).

Arnaud does not disclose *the "N" bits of data representative of a DTMF digit are encoded so that the following encoded data represents the indicated DTMF digit:*

*An encoded "0" represents a DTMF digit of 0*

*An encoded "1" represents a DTMF digit of 1*

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*An encoded "2" represents a DTMF digit of 2*

*An encoded "3" represents a DTMF digit of 3*

*An encoded "4" represents a DTMF digit of 4*

*An encoded "5" represents a DTMF digit of 5*

*An encoded "6" represents a DTMF digit of 6*

*An encoded "7" represents a DTMF digit of 7*

*An encoded "8" represents a DTMF digit of 8*

*An encoded "9" represents a DTMF digit of 9*

*An encoded "10" represents a DTMF digit of \**

*An encoded "11" represents a DTMF digit of #*

*An encoded "12" represents a DTMF digit of A*

*An encoded "13" represents a DTMF digit of B*

*An encoded "14" represents a DTMF digit of C*

*An encoded "15" represents a DTMF digit of D*

Schulzrinne teaches a payload format 32-bits long which comprises five bits for DTMF digit encoding wherein an encoded 0-15 corresponds to 0-9, \*, #, and A-D respectively (See page 3.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement RTP payload for DTMF digits of Schulzrinne in the system of Kozdon utilizing the method of Arnaud. One of ordinary skill in the art would have been motivated to do so in order to support DTMF digits in RTP packets as taught by Schulzrinne (See page 1, paragraph 4.)

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Regarding claim 13 as explained above in the rejection statement of claim 1, the references teach all of the claim limitations of claim 1 (parent claim).

Arnaud does not disclose *an encoded "16" represents a Flash*.

Schulzrinne teaches a payload format 32-bits long which comprises five bits for DTMF digit encoding wherein an encoded 16 corresponds to Flash (See page 3.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement RTP payload for DTMF digits of Schulzrinne in the system of Kozdon utilizing the method of Arnaud. One of ordinary skill in the art would have been motivated to do so in order to support DTMF digits in RTP packets as taught by Schulzrinne (See page 1, paragraph 4.)

Regarding claims 14-16 as explained above in the rejection statement of claim 1, the references teach all of the claim limitations of claim 1 (parent claim).

Arnaud does not disclose *wherein the reserve bits are set to zero*.

Schulzrinne teaches a payload format 32-bits long which comprises five reserve bits, which are set to zero (See pages 2-3.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement RTP payload for DTMF digits of Schulzrinne in the system of Kozdon utilizing the method of Arnaud. One of ordinary skill in the art would have been motivated to do so in order to support DTMF digits in RTP packets as taught by Schulzrinne (See page 1, paragraph 4.)

### ***Response to Arguments***

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5. Applicant's arguments filed August 19, 2005 have been fully considered but they are not persuasive.

Rejection Under 35 U.S.C. § 103

On page 21 of the remarks, regarding claims 1, 22, 30, 38, 47, 56, 65, 70, and 76, the Applicant argues Arnaud does not disclose *if a potential DTMF signal is detected, storing the digital packets and if the potential DTMF signal does not result in a DTMF detection, promptly transmitting the digital packets and if the potential DTMF signal does result in a DTMF detection, discarding the stored digital packets and transmitting a control packet containing information relating to characteristics of a DTMF signal that was detected*. The Examiner respectfully disagrees. Arnaud discloses *if a potential DTMF signal is detected, storing the digital packets* (Referring to Figures 2 and 12, DTMF detector (203) detects and validates DTMF signals, inherently requiring the storing of packets in order to process the packets. See column 5, lines 26-28,) *and if the potential DTMF signal does not result in a DTMF detection, promptly transmitting the digital packets* (Referring to Figure 7, when no DTMF signal is pre-detected the voice traffic is transmitted after a delay. See column 5, lines 61-62,) *and if the potential DTMF signal does result in a DTMF detection, discarding the stored digital packets and transmitting a control packet containing information relating to characteristics of a DTMF signal that was detected* (Referring to Figures 2 and 9b, after the DTMF Detector (203) has determined that a candidate DTMF signal is a true DTMF signal, the DTMF signal is coded for transmission, comprising the DTMF signal characteristics. See column 5, lines 42-46 and 65-67.) Therefore, Arnaud discloses *if a potential DTMF signal is detected, storing the digital packets and if the potential DTMF signal does not result in a DTMF detection, promptly transmitting the digital*

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*packets and if the potential DTMF signal does result in a DTMF detection, discarding the stored digital packets and transmitting a control packet containing information relating to characteristics of a DTMF signal that was detected.*

On page 23 of the remarks, regarding claims 1, 22, 30, 38, 47, 56, 65, 70, and 76, the Applicant argues Yaguchi does not teach *stalling transmission of stored digital packets until DTMF detection can be performed*. The Examiner respectfully disagrees. Yaguchi discloses a method and apparatus for DTMF detection in which a filter utilizing a short energy-propagation delay time to perform DTMF detection in a short time and suppress erroneous detection (See column 2, lines 33-38.) Which is logically equivalent to *stalling transmission of stored digital packets until DTMF detection can be performed*. Also, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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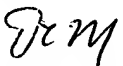
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills

  
October 27, 2005

  
JOHN PEZZLO  
PRIMARY EXAMINER

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